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A Review of Alberta Archaeology to 1964

by Richard G. Forbis

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A Review of Alberta Archaeology to 1964

Richard G. Forbis

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Résumé

L'archéologie de l'Alberta en est à ses débuts; néanmoins, elle s'est développée rapidement au cours des dernières années. Dans cette étude des travaux exécutés jusqu'en 1964, l'auteur fait d'abord connaître ses découvertes de la période lithique ancienne. Elles comprennent des pointes de projectiles et les restes d'un humain non-adulte trouvés près de Taber. Le lithique moyen est mal représenté en Alberta. La plupart des travaux entrepris jusqu'à présent dans la province se sont concentrés sur les restes archéologiques du lithique récent. Les découvertes importantes de cette période comprennent le site Ross; celui de Old Women's Buffalo Jump (lieu d'une hécatombe de bisons); le village de huttes en terre de Cluny; des ronds de tipis (cercles de pierres destinés à retenir à terre les revêtements de peaux des habitations); des roues magiques (cercles de pierres rayonnés); des cairns, des mosaïques de pierres, des pictographies et des pierres gravées. Les pointes de projectiles et les pièces de poterie sont les objets les plus importants de la culture matérielle de ces sites. La conclusion de Forbis insiste pour que l'on applique, en Alberta, une méthode historique directe. « Les liens qui rattachent l'histoire à la préhistoire ajoutent chair, couleur et identité aux pierres et aux ossements inertes qui forment les assemblages culturels. Ils permettent de suivre les migrations, d'établir la série des vicissitudes et de retracer l'histoire culturelle de la tribu. »

Summary

While archaeology is still young in Alberta, it has developed rapidly during the past few years. In his survey of the work undertaken up to 1964, the author reports first on discoveries in the Early Lithic Period. These include projectile points and the physical remains of an immature human being found near Taber. The Middle Lithic Period is not well represented in Alberta. Most work so far undertaken in the province has been concentrated on archaeological remains of the Late Lithic. Important discoveries in this period include the Ross site, Old Women's Buffalo Jump (the site of a buffalo kill), Cluny Earthlodge Village, tipi rings (circles of stone designed to keep hide lodge-covers flush with the ground), medicine wheels (circles of stone from which several spokes of stone radiate), cairns, boulder mosaics, pictographs, and ribstones (boulders on which patterns have been incised). Projectile points and pottery are the most important items of material culture recovered from the sites. In his concluding remarks, Dr. Forbis urges that the direct historical approach be followed in Alberta. "Links between the historic and prehistoric add flesh, colour and definition to the dead stones and bones that constitute cultural assemblages. They make it possible to follow the migrations, to chart the vicissitudes, and to trace the culture history of a tribe."

Biographical Note

Richard G. Forbis, Professor of Archaeology at the University of Calgary, is a graduate of Columbia University. He originally came to Calgary in 1957 to become associated with the Glenbow Foundation, where he continues as a Consultant. His special area of interest is the Plains. With H.M. Wormington he published *An Introduction to the Archaeology of Alberta, Canada* in 1965. In 1970 he was Visiting Scholar with the National Museum of Man, Archaeology Division.

Because its prehistoric inhabitants were neither settled nor numerous, Alberta is not rich in archaeological remains. Its location, furthermore, sets it apart from the main centres of cultural development in native North America. The Plains area in the southern part of the province belongs essentially to Kroeber's "Eastern" culture area, but prehistoric influences from centres in the Mississippi and Ohio regions were weak indeed (Kroeber 1939). Possibly it was only after the coming of the horse that Plains cultures achieved a more than marginal character. The Boreal Forest, or Subarctic cultures of northern Alberta, forms part of a vast region that seems culturally flat with no distinctive centre of development. Along the Rocky Mountains, where Alberta joins British Columbia, cultural influences filtered through from the Plateau, but they were hardly of basic consequence because of their limited penetration and probably seasonal nature. Then, too, at least during historic times, Plateau cultures tended to take on a Plains cast.

No doubt the general failure of prehistorians to concern themselves with Alberta has stemmed in large measure from the peripheral position that the province occupies in relation to aboriginal American culture centres. Archaeologists have quite naturally gravitated to richer fields. In the past this was required almost wholly as a response to the economic situation; archaeologists had to produce quick and substantial results if they were to expect support. This situation is changing and, while the pursuit of archaeology in Alberta is still young, it is developing on a sound footing. Continually wider support is coming from all segments of the public. Archaeological remains are no longer solely regarded as objects of curiosity, but as vital segments of the heritage of the past, deserving of protection and preservation for the benefit of future generations.

The more academically minded, at the same time, are beginning to realize that such areas as Alberta offer challenges of a special nature. Particularly important are such problems as the relation of man to his environment. Where the balance is as delicate as it is in Alberta, any shift in nature is likely to exert profound influences on culture; the cultural response is of enormous consequence to anthropologists. Such problems of general orientation demand study in remote as well as in central areas if their theoretical consideration is to achieve overall validity.

To date, the institution that has been primarily responsible for the advancement of archaeology in Alberta has been the Glenbow Foundation of Calgary. In 1955 and 1956, H.M. Wormington, assisted by William Mulloy and E. Mott Davis, devoted two summers to research of early man in Alberta. From that point of departure a continuing and comprehensive program in archaeology has developed. Valuable as they are, earlier contributions by such writers as Bird (1939) and Bliss (1939) were discontinuous in nature and were intended to resolve limited, specific problems.

One theme in the Glenbow program has been the approach emphasized by William Duncan Strong, that is, to work from the

known to the unknown. Strong (1940) mainly intended this approach to be a temporal one, proceeding from the historic to the prehistoric.

The program of the Glenbow Foundation has also used a geographical approach. Areas to the south and east of Alberta have been subjected to far more intensive investigation than areas to the north and west. These well-studied areas serve as a base for further investigation. The amount of archaeological research carried out in the northern two-thirds of Alberta is still negligible, and information about this region forms no coherent pattern. It is encouraging to report that this situation will almost certainly be rectified soon. As of 1963, five professional archaeologists belong to the staffs of the University of Alberta and the Glenbow Foundation—a happy contrast compared to the year before, when only one archaeologist found support in the province.

1 - Ardmore
2 - Berry Creek Ribstone
3 - British Block Cairn
4 - Castor Creek Site
5 - Cluny Earthlodge Village
6 - Coulee View Site
7 - Grassy Lake Cairn
8 - High River
9 - Little Gem
10 - Old Women's Jump
11 - Rumsey Cairn
12 - Scapa Ribstone
13 - Sturgeon Heights
14 - Taber
15 - Trochu Ribstone
16 - Waterton Reservoir
17 - Banff
18 - Wild Turnip Hill
19 - Writing-On-Stone

Figure 1

Map of Alberta showing some archaeological localities. (From Lobeck: Physiographic Diagram of North America.)

Alberta, which is 255, 285 square miles in area, extends from latitude 49°N to 60°N, and longitude 110°W to 120°W, except for a jog along the southwestern corner, where the border with British Columbia is described by the continental divide. With attendant foothills, the mountains form a strip about 40 miles wide. Almost all the remainder of the province consists of plains, high in the west and sloping gently towards the north and east to elevations as low as 600 feet above sea-level (fig. 1). Although the slope is remarkably uniform, the plains are not without minor uplands such as the Caribou Mountains, the Swan Hills, and the Cypress Hills.

Geologically, the bedrock of the Rocky Mountains consists of Palaeozoic deposits of Cambrian age. The most recent bedrock deposits of Alberta, those of Tertiary age, form a foothill fringe along the base of the mountains. Most of the region to the east and north is covered by earlier and extensive Cretaceous sediments, which are superimposed over still earlier Devonian deposits exposed in the northeast. The Devonian deposits, in turn, rest on the basal Precambrian formations of the Canadian Shield in the most northeasterly corner, around Lake Athabasca.

Nearly all Alberta has been glaciated so that the bedrock is mantled with various glacial deposits: till, moraine, outwash, or lake sediments. These glacial deposits have attained characteristic regional soil profiles that reflect long-standing climatic conditions. The chestnut soils of the Plains are bordered on the north by an arc of black soils; they, in turn, are bounded by a strip of brown soils. Nearly all soils in the forested, northern half of Alberta are described as grey wooded soils with peat.

A continental climate typifies the large interior landmass east of the Rockies. Precipitation is light and consists mainly of rain and some snow; it ranges from around 12 inches a year in the southeast to 16 inches in northern Alberta, with larger amounts falling in the mountains and foothills. Winds, generally moving eastward, lose much moisture in their passage over the mountains.

In the Plains of southern Alberta, most rain falls in June and July. It is often preceded and followed by prolonged droughts. It falls in the form of scattered showers or violent thunderstorms. Drainage is excellent in the soft Cretaceous rock of the Plains. Lakes are few, and rainfall does not penetrate deep into the earth, with the result that trees find it difficult or impossible to gain a foothold. Although the hardy drought-loving grasses of the area find it a happy home, trees such as poplar, aspen, and birch thrive only moderately well. Living close to the ground, they have small leaves and scant foliage, which yield little moisture to the persistent winds of the prairie.

In the northern forest, precipitation is greater. Since the region is at a higher latitude, temperatures are consequently lower and evaporation is not so effective in dissipating moisture. Winds, too, are a less decisive factor than on the Plains. Aspen, poplar, and birch flourish in this environment, as do conifers—spruce, pine, and larch. Drainage systems are retarded in development, and the region is a maze of swamps, streams, and lakes. The intermediate parkland area partakes of the qualities of both the plains and the forest.

The land and climate, then, determine the plant life upon which animal life is dependent. All these go together to define the possibilities of human existence. In the northern forest, the

*This section is based largely on Kendrew and Currie (1955), Morton (1939), and *The Atlas of Canada, 1958*.

moose—a browser of tender twigs and water plants—proved a mainstay for the Indian, providing him with food and clothing as well as raw materials for numerous types of artifacts. The moose, however, was a difficult animal to hunt, especially in the summer, and though a medium-sized animal might weigh 500 pounds and a large one well over 1,000 pounds, a single catch led only to deceptive abundance.

Also vital to the Indian's subsistence was the woodland caribou, which attained only about half the weight of an average moose. Gregarious in contrast to the solitary moose, many caribou could be killed when a herd was located. But the caribou is an animal greatly given to wandering, and it provided only a seasonal and unpredictable source of subsistence.

Though beaver hides made excellent articles of clothing, the beaver itself yielded so little edible meat that it was hardly worth securing as food. Rabbits too, although vital as emergency rations to the inhabitants of the northern forest, provided little meat. Since they seemed to suffer cyclical declines, they could not be depended on as a staple food.

In warm weather, fish were plentiful and easily caught, but as winter approached, they retired to the depths of the lakes and there eluded capture. Whitefish and pike were caught most successfully. Trout, weighing up to 20 pounds, frequented the deep lakes. Sturgeon, weighing from 10 to 50 pounds, inhabited the sluggish muddy waters.

Vegetable foods played little part in the diet of the forest Indians. No crops could be cultivated under the climatic and cultural conditions. Berries were ready for harvest in the summer, notably blueberries, gooseberries, cranberries, huckleberries and currants.

Thus, while there was a considerable variety of food in the northern forest, the total available supply was not impressive. Moose, a solitary animal, was difficult to catch; caribou herds wandered seasonally with little predictable pattern. Small game provided no assured or substantial source of subsistence. Birds, fish, and wild plants were only available seasonally. The limitations of the food supply and the cultural limitations of means for securing food decisively curtailed the population.

Conditions on the Plains stood in sharp contrast to the timbered region. For all its apparent barrenness, the grass cover could support vast numbers of gregarious grazing animals. Once successful methods of slaughtering the beasts had been devised, settlement of the plains was possible and rapid.

The buffalo was without rival among hunting cultures for providing food and other necessities of life. Fitted by nature to the communal drive, large herds were stampeded to their death at a single time. Since the average bull weighed 1,800 pounds and the cow 1,200 pounds, the amount of meat that could be secured in an astonishingly short time was staggering to the imagination. As Alexander Henry the elder observed (Bain 1901: 318): "The amazing numbers of these animals prevent all fear of want which is incessantly present to the Indians of the north." Not only were day-to-day wants satisfied, but the preservation of meat in the tidy form of pemmican permitted the Indians to live for long stretches of time without hunger.

Although buffalo provided the staple to the Plains Indians, other animals were also valued. Antelope lived in large numbers and, according to native tradition, were impounded in much the same manner as buffalo. The stream valleys

proved an ideal environment for deer and elk; mountain sheep and goats lived in the Rockies and apparently ventured out onto the Plains in the early days. Bushes growing along the networks of coulees and river valleys yielded an abundance of saskatoons, or service berries, and chokecherries for use in the preparation of pemmican. Small game was largely ignored, and fish was abhorred.

Indians of two great linguistic stocks dominated Alberta at the beginning of the historic period. The *Algonkians* were represented on the prairies by component divisions of the Blackfoot nation – Blood, Piegan, and Siksika (or Blackfoot proper) – and by the more distantly related Atsina, or Gros Ventre, of the Prairies. The Cree, recent arrivals from the east, had pushed their way along the Saskatchewan River and held the parkland north of the Plains. *Athapaskan* speakers were thinly spread through the Boreal Forest. The Sekani lived along the upper reaches of the Peace River, extending as far east as the present town of Peace River. The Beaver Indians were scattered throughout the entire region north of Lesser Slave Lake, except for the most northeasterly corner, where the Chipewyans lived around Lake Athabasca. The Sarsi, while they were first observed in a location directly south of the Beavers and west of the Crees, moved shortly afterwards to the Plains, where they affiliated with the Blackfoot nation.

Other linguistic stocks in Alberta represent relatively unimportant extensions from other areas.The *Kutenai*, who speak a distinctive language of their own, and the *Shuswap*, who speak a *Salishan* dialect, occasionally ventured across the southern reaches of the Rocky Mountains onto the foothills and Plains. Snake Indians, presumably of *Shoshonean* stock, are reputed to have dominated the Plains of Alberta in late prehistoric times and are mentioned occasionally by early travellers. The Stonies, or Assiniboine, outliers of *Siouan*-speaking peoples to the east, were closely associated with the Cree in their westward expansion and eventually settled mainly along the foothills of the Rockies.

*Much of this section has been drawn from Driver and Massey (1957).

Certain broad aspects of culture were shared by the native tribes of Alberta. Except for small, unkempt tobacco gardens on the Plains, horticulture was not practised, owing largely to the limitations of climate on the growing season. The Indians of Alberta depended almost solely on game for subsistence. The task of hunting fell, for the most part, to the men, who employed communal drives wherever game animals lived in herds. To the women were left most of the domestic responsibilities, including the building of lodges, the dressing of skins, and the manufacture of semi-tailored clothes of hide or fur, often decorated with porcupine quillwork.

In many important respects, the Plains tribes clearly differ from the peoples of the Boreal Forest. Highly nomadic, they followed the vast herds of buffalo, which provided almost all the necessities of life. Before they became equestrian, about 1730, the Plains tribes had developed the technique for killing buffalo to a stage of high perfection by driving them over cliffs or into natural obstacles and pounds. Meat was dried in the air or in the sun; then it was mixed with fat and sometimes berries to produce pemmican. In one drive, vast amounts of meat could be secured. Preserved, it relieved the Plains tribes of the incessant quest for food; this dependence on buffalo flesh resulted in a corresponding independence of other food sources, although elk, antelope, deer, and other large mammals were hunted, and berries, roots, and tubers supplemented the meat diet.

Many typical artifacts of the Plains Indians were made by specialists from by-products of the buffalo, particularly from the hides: clothes, moccasins, covers for the characteristic Plains tipis, pareflèches, bullboats, containers, mortars, shields, armour, and a host of other things. So versatile were the Plains Indians in finding ways to employ the products of the buffalo that such arts as the weaving of baskets and fabrics were neglected. Pottery was adopted in late prehistoric times despite its fragility and the attendant difficulty of transport, but pottery-making declined as an art when the acquisition of the horse brought about increased nomadism.

In the north, life was more precarious and the population density was light. Subsistence was based on a variety of resources. Large game was generally secured either through the use of pounds or by driving the animals into water, where they were relatively helpless. The number of animals secured was usually small. Fishing, though more heavily relied upon and more elaborately developed than on the Plains, was not a highly complex technique in comparison to that practised by many other tribes of the boreal area. Should a surplus of meat develop, it was smoked or dried and cached for emergency use; emergencies came about with such frequency that the northern tribes were reduced to a hand-to-mouth existence with little leisure time to develop the arts or ceremonialism.

Plants provided a limited and seasonal supply of food; they also provided weaving materials for making baskets, bags, and mats. Pottery was absent. Canoes, made of spruce bark, provided the principal means of transportation in the summer. In winter, movement was facilitated by snowshoes. Dogs served as pack animals, carrying the limited inventory of household goods. The Plains travois, for dog or horse, was absent. Though continuous movement from one small temporary camp to another was essential for survival, the northern peoples were not so nomadic as the Plains Indians. By virtue of the nature of the terrain, they more naturally

tended to live along the rivers and lakes and probably tended to occupy repeatedly certain favoured spots. Although these localities afford good archaeological promise, when they are found, it is not likely that they will prove so productive as sites on the Plains.

The Early Lithic period is equivalent to the stage commonly known as Palaeo-Indian or Early Man. During this period, man hunted large animals, many of which are now extinct. The period takes in all materials dating from the earliest known times to the beginning of the dry Altithermal Period, or Climatic Optimum, about 8,000 years ago. On the Plains there is little evidence of human occupation during the Altithermal, which lasted until about 5,000 years ago. Man was probably able to adapt to the straitened circumstances of this time, but archaeological traces of his existence have not yet been recognized. It is a logical possibility that the southern parts of the Subarctic forests of today were replaced by grasslands in the Altithermal, and that the early hunters of the Plains sought refuge there. Firm evidence supporting this possibility is not at hand. The presence of many early types of projectile points from blowouts along the North Saskatchewan, however, may be indicative of a northern movement of man following the onslaught of the Altithermal on the Plains.

Sequences in the Early Lithic follow those developed for the Plains region of the United States. These are sequences developed in terms of projectile point typology. If a "pre-projectile point horizon" antedated the making of stone points, it has not as yet been recognized. And the most ancient point types, such as Sandia, Clovis, and Folsom, are uncommon. On the other hand, specimens dating from the period of about 10,000 to 8,000 years ago are reasonably plentiful; they include types belonging to the Plano or Yuma tradition. There thus appears to be a gradual increase in population from the first part of the Early Lithic to the last, followed by a sharp decline during the Altithermal.

Clovis points are exceptionally rare

in Alberta. This may reflect their early age, for Alberta was presumably not well suited for occupation at the time of the Clovis hunters owing to the proximity of glaciers. The single unquestionable Clovis point is said to have been found in a trench during street construction in the city of Lethbridge (fig. 2). Armin Dyck, who was engaged in this work, noticed the point lying on the bottom of the trench. In the limited time available, he examined the walls of the cut in an attempt to find any trace of additional cultural debris. He is certain that there was no cultural layer from which the specimen might have fallen and that no other artifacts lay exposed nearby.

Figure 2

Clovis point from Lethbridge. Extent of basal grinding is indicated by dashes. (A. Dyck Collection.)

Folsom points, rarely typical, are very scarce in the Plains area of Alberta, although perhaps as many as a half dozen have been reported. A finely executed, if aberrant, example was found in 1957 in a large sandy blowout near the North Saskatchewan River, about 75 miles northeast of Edmonton. Its situation is completely hopeless as far as offering an opportunity for excavation is concerned. Heavy vegetation now covers this area, and the forested setting is not typical of Folsom localities.

Plano or Yuma points. Early Lithic cultural materials following Folsom occur with some frequency throughout the southern part of the province, at least as far as the North Saskatchewan River, where typical Plano or Yuma points are sometimes found in sandy blowouts. Similar, though not identical, forms have been found on ploughed fields in the Peace River District, but whether they belong to the same temporal horizon or to a separate cultural tradition is a matter for thorough investigation. Their position, on the surface, indicates a relatively recent age, especially since these locations are not vulnerable to such erosion, which might account for their ready exposure.

Three localities are especially interesting. The first is an area around Little Gem, northeast of Calgary, near the Saskatchewan border. Russell Johnston, during the 1930s, assiduously kept watch over several blowing fields and was able to recover a substantial collection, which he has thoroughly documented (Johnston n.d.). His pleas for professional assistance during these poverty-stricken years were necessarily ignored, and all the sites from which he recovered his materials have now been blown away. The Little Gem complex has been briefly reported by Wormington (1957: 132-34), and a

fuller treatment by the same author has appeared (Wormington and Forbis 1965: 56-97).

South of Calgary, in the vicinity of High River, particularly along the higher ridges of the prairie, there has also been found a wide range of artifacts typologically indistinguishable from early, but post-Folsom, complexes in the United States. It is of interest that this area has also yielded microblades; it is doubtful that they are of great antiquity, but, like the specimen found by Johnston in the Little Gem region, they show beyond doubt that at some remote period makers of microblades had penetrated into Alberta, probably from the north.

Most recent activity in the search for early man has been concentrated near Taber, some 40 miles east of Lethbridge. During the spring of 1958, L.A. Bayrock, of the Research Council of Alberta, explored a newly exposed highway cut a short distance north of the town and found the articulated skeleton of an extinct form of buffalo. Within the skull lay a cobble choppet tool, which was presumably used by man to hack the skull to get at the brain. Geological processes could hardly account for its presence there. From lower in the same sand formation, Bayrock secured a sample of wood with a radiocarbon age of 11,000 years (McCallum and Dyck 1960: 75; S-68). Since the entire formation probably accumulated rapidly, when the Oldman River was just beginning to cut its downward course, the age of the wood is likely to represent a close approximation to the age of the bison and the chopper.

Further excavations at this site were stimulated by Bayrock's finding of a cultural layer, still higher in the same cross-bedded sands (DkPb-2). This layer consisted of a thin bluish-coloured stratum choked with fragile fragments of bison bone. On the surface, immediately below the bone bed, Bayrock found a Plano or Yuma point, made of a distinctive dull red material (plate 1, fig. A). Excavations in the bone bed, conducted by the Glenbow Foundation in 1959, yielded a chip of this same unique material, almost certainly proving the association of the projectile point with the bison bones. Four other artifacts, including two spokeshaves made on thin flakes (plate 1, figs. B and C) were recovered during the excavation of the bone bed. A radiocarbon date, based on a humic acid sample from the cultural layer, gave the unacceptable age of less than 500 years; the humic acid sample is suspect.

In 1962, A.M. Stalker of the Geological Survey of Canada located fragmentary bones of an immature human being in a cutbank of the Oldman River, a few miles northeast of Taber. It seems that the sand formation containing the specimen lay under a mantle of glacial till, a situation which suggests great antiquity. The possibility that the burial was intrusive is so remote as to be not worth serious consideration. The brief report published about this site (Langston and Oschinsky 1963) is sufficient to indicate that the site is of limited anthropological importance, because the individual was too young to have developed the critical osteological features necessary for meaningful comparison with other prehistoric skeletal remains. None the less, it would seem to represent one of the earliest finds of the physical remains of man in the new world. No artifacts were recovered.

In the spring of 1963, Armin Dyck reported to the Glenbow Foundation the discovery of a site near Taber (DjOw-1). He recovered several projectile points closely related to the Scottsbluff type which belong to a

horizon roughly 7,000 to 9,000 years old (plate 2). He observed a bone bed in the same area, and the Glenbow Foundation sent a party to test the site. Although the test was limited, it did demonstrate beyond doubt that the bone bed contained Scottsbluff points. Presumably, most, if not all, of the Scottsbluff points from the surface were originally contained in the same bed.

A single further discovery relating to the Early Lithic period deserves special attention. In 1960 a crew from the Glenbow Foundation, while examining barrow pits on the Blackfoot Reserve east of Calgary, located some bison bones in a sandy formation underlying volcanic ash (EePh-2). This ash may be dated about 6,600 years ago, or even earlier (A.M. Stalker, pers. comm.). In

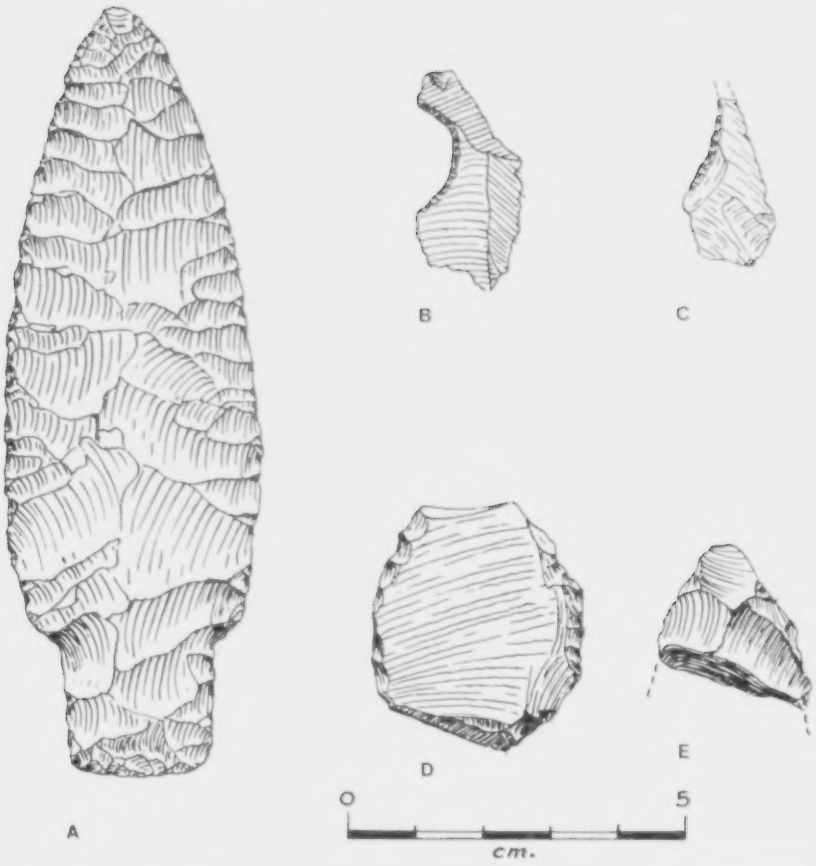


Plate 1

Artifacts from a site near Taber (DkPb-2). The projectile point, found on the surface, probably originated in the same cultural layer where the other artifacts were excavated.

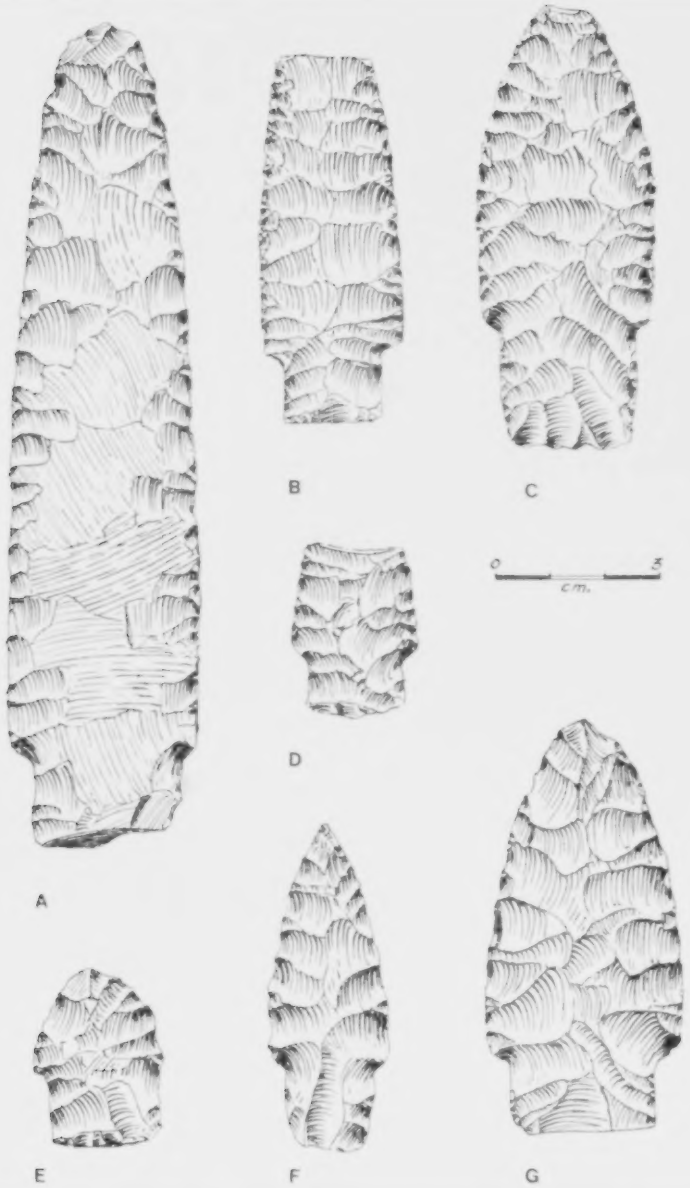


Plate 2

Projectile points from the Fletcher Site (DdOx-1), southeast of Taber. All are surface finds except *G*, which was recovered in a cultural layer containing bison bones. A, Dyck Collection (except *G*).

any event, one of the scapulae had been struck by a projectile point whose base was broken off. Identification of the type of point is impossible. In chipping and form, in so far as it is complete, it resembles Early Lithic points. It was not lethal; a bony growth surrounded the specimen and formed a pocket of pus to enclose the point.

The Middle Lithic Period which began at the end of the Altithermal, about 5,000 years ago, and ended in the first centuries of the Christian era, is not well represented in meaningful context in Alberta. The best stratified and most productive sites of the period on the northern Plains are in Saskatchewan at Mortlach (Wettlaufer 1956) and at Long Creek (Wettlaufer 1960), and in Montana, especially at Pictograph Cave near Billings (Mulloy 1958). Typical projectile points are large and corner-notched; presumably they were hafted to dart or spear shafts. Specimens of the earlier phases of the period are lanceolate, basally-notched McKean points. In Alberta, most Middle Lithic specimens have come from surface localities where they are mixed with artifacts of earlier and later periods.

Cultures of the Middle Lithic have on occasion been designated "Foragers," the implication being that overall conditions on the northern Plains prevented the establishment of an economy based on big game hunting. Presumably man was obliged to rely on plants and small game for subsistence. As for the Alberta Plains, this position is hardly tenable. If anything, it applies to the preceding Altithermal Period, for which there is little or no trace of man on the Alberta Plains; population densities must have been low. During the Middle Lithic, particularly in the beginning, man was well established throughout the area. From what can be gathered from the archaeological record, he was no more dependent on plant foods and small game in the Middle Lithic than at any other time in prehistory. Buffalo provided the mainstay of life.

The early reoccupation of the Plains during the Middle Lithic seems almost explosive. Certainly the cultures did not develop gradually from antecedents in Alberta. They spread rapidly over the

Plains, perhaps in response to ameliorating climatic conditions that favoured the growth of nourishing grasses and bison herds. There seems little reason to doubt that some of these waves of invasion originated in the east; Middle Lithic artifacts strongly resemble those of the Eastern Archaic. Yet others may have had their source in the north. In the wooded country along the North Saskatchewan River, point types characteristic of the early stages of the Middle Lithic are quite common.

For some unaccounted reason, the cultural impetus that set the Middle Lithic off to a good start gradually dwindled away, and evidence suggests a relatively light population by the end of the period.

The Castor Creek site (FbOw-1) is among the earliest of the Middle Lithic assemblages in the northern Plains. A.E. Turner in 1961 reported the discovery of a copper crescent, an artifact of the Old Copper Culture, which he found in the bed of Castor Creek. This discovery prompted a search for the original habitus of the crescent. A promising cutbank was located about fifty feet upstream from the findspot (plate 3). This cutbank proved to be a hanging valley, some 50 feet above the present stream channel of Castor Creek. Considerable time must have been required for the

Plate 3

Castor Creek, showing the position of an archaeological site (FbOw-1) in a hanging valley about 50 feet above the present valley floor. Vegetation in the valley forms a sharp contrast to the surrounding grasslands on the prairie level.

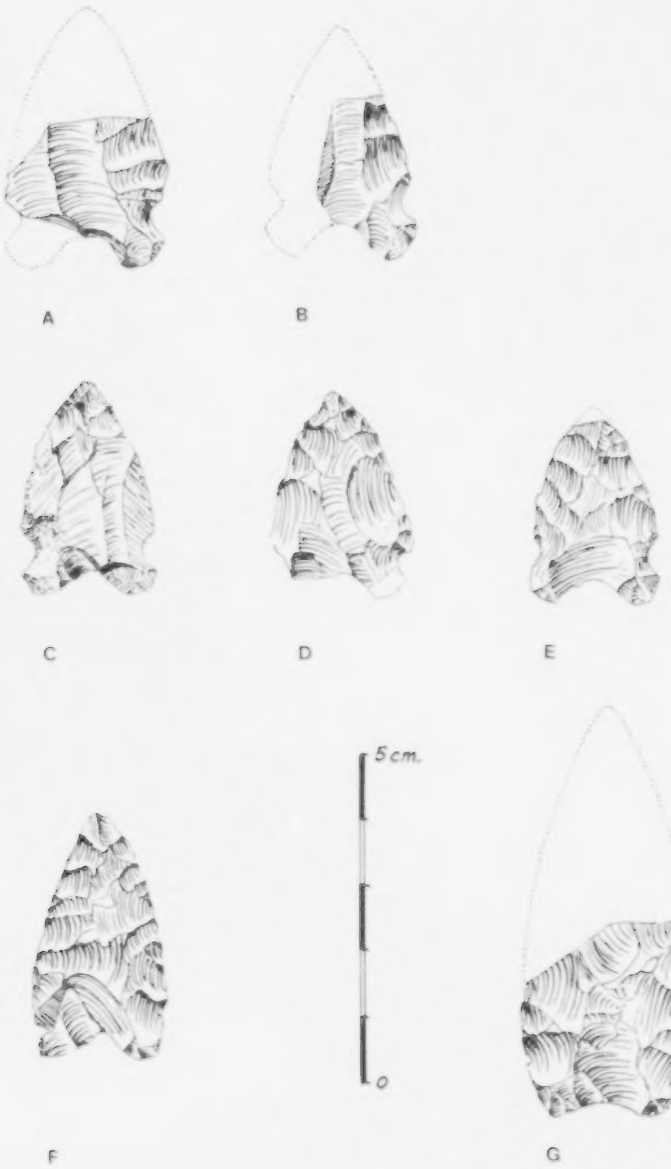


Plate 4

Projectile points from the Castor Creek Site (FbOw-1). *A* to *E* are Oxbow points, *F* bears a resemblance to a McKean point, and *G* is reminiscent of a Plainview point.

creek to cut as deeply as it had. The geological situation thus suggested an appreciable antiquity, roughly the same as that of the Old Copper Culture. Excavations were inaugurated the same year with the primary hope of recovering further specimens of copper.

This hope proved to be in vain, but a small series of chipped stone artifacts was recovered. In the main, they were of no diagnostic value, but the projectile points belong typologically to the same horizon as the Oxbow site in Saskatchewan (Nero and McCorquodale 1958) and the lower layers of the Long Creek site in Saskatchewan (Wettlaufer 1960). The points are medium in size; they are side-notched and have concave bases (plate 4). Bison remains predominate at all sites; at Oxbow other species are tentatively identified as wolf, coyote, frog, clam, and fox-sized carnivore.

According to radiocarbon dating, all the sites are comparable in age. Oxbow is 5,100 ± 250 years old; Long Creek (layers 7 and 8), slightly more than 4,500 years old; and Castor has a radiocarbon date of 4,475 ± 1,000 years.

Mayer-Oakes (in Wettlaufer 1960) is probably correct in suggesting that the origin of the Oxbow complex can be traced to the Eastern Archaic. Some sites in the prairie region of the United States have yielded projectile points that are generally comparable to Oxbow and are of earlier age, among them the Simonsen bison kill in northwestern Iowa (Agogino and Frankforter 1960) and the Logan Creek site in eastern Nebraska (Kivett 1959). They, in turn, seem related to sites still further east. Oxbow points are not a dominant type of the Plains proper, however, and may represent a non-indigenous cultural tradition encircling the Plains during the last phases of the Altithermal period.

The Coulee View site (DlPd-5), northeast of Lethbridge, occupies a position on the prairie level at the head of the draw leading down to the Oldman River. It is only a few hundred feet from a buffalo ambush (DlPd-1), which yields the delicately side-notched Avonlea projectile points. These are about 1,500 years old (Kehoe and McCorquodale 1961) at some localities. The Ross site (*see* Late Lithic) is about one mile distant. Extensive tests were carried out at DlPd-5 in 1957 and 1960. Although the site was poor in artifact material, the tests revealed that it was stratified and that typological changes in artifacts were significant.

Five distinct pedological strata reflect varying modes of deposition at the site. The two lower layers consist of sand and pebbly sand, laid down by stream action. They are overlain by fine white silts which were probably deposited in still waters at the time the Oldman River was just beginning to entrench itself. Only in the two upper layers is there any trace of human occupation. A pebbly sand overlying the silt was deposited by stream action. Afterwards, the river cut its course too deep to effect further fluvial deposition. The capping sands were deposited by wind action. They form a bed about two feet thick, whose basal portion is about six inches in thickness and is darkly stained.

As natural stratigraphy was extremely difficult to define during excavation, the site was excavated by arbitrary three-inch levels. No other site known in Alberta has provided cultural stratification so deep in time. The top 12 inches revealed no diagnostic artifacts except pottery of Late Lithic age, which was confined to the wind-borne sands. Below the 12-inch level, there appear to be two main cultural components, both belonging to the Middle Lithic. At the bottom, in the pebbly sands, is an early

complex resembling the Oxbow components of Saskatchewan and Castor Creek (plate 5, figs. G, H, I). It differs in that small McKean points form an important part of the series at Coulee View (plate 5, figs. F, J, K), and an estimate of an age of about 4,500 years for Coulee View, based on typology, would support the geological evidence.

The basal fragment of a Scottsbluff point probably dates from earlier times. No material for radiocarbon dating was recovered. The later Middle Lithic complex is more heterogeneous but includes corner-notched points (plate 5, fig. D) as well as Avonlea points (plate 5, figs. A, C), suggesting an occupation merging into the Late Lithic.

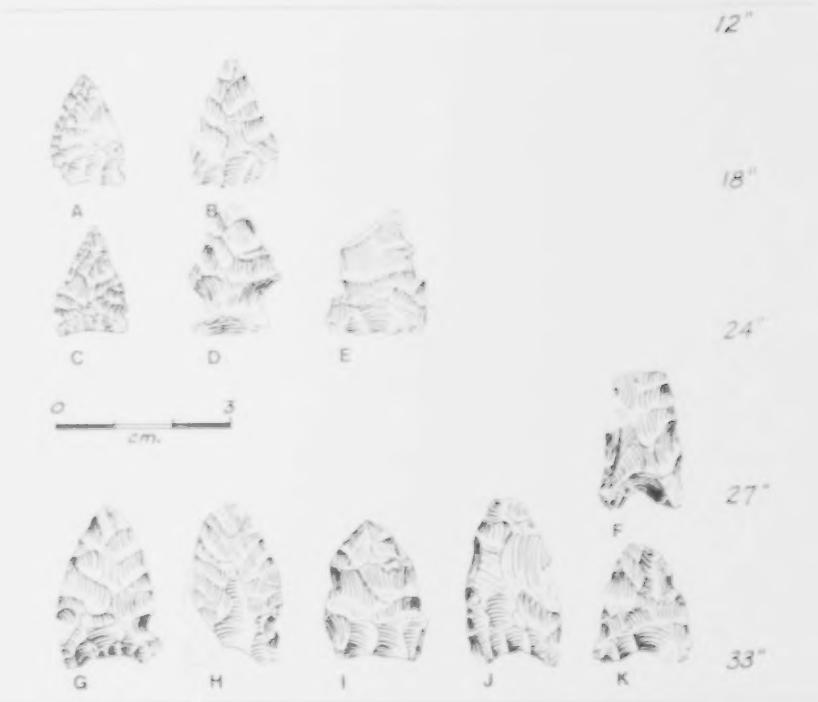


Plate 5

Projectile points from the Coulee View Site (DiPd-5). *A* and *C* are Avonlea points. *G* and *H*, Oxbow points. *F*, *J*, and *K* are variants of McKean points.

Projectile point types define the Late Lithic horizon. They were small and presumably were used with arrows rather than with darts or spears (Fenenga 1953). At the beginning of the period the points tended to be corner-notched; toward the end of the Late Lithic they were side-notched or lacked notches altogether. Although pottery first appeared during the Late Lithic, it is not of primary value in distinguishing archaeological remains in Alberta. It does not attain any considerable time depth and is almost monotonously uniform in its characteristics.

By the end of the Middle Lithic the number of persons inhabiting the Plains of Alberta appears to have been small, and this situation continued into the early part of the Late Lithic. The population had, however, almost certainly increased greatly by historic times, if the abundance of archaeological remains is indicative. Possibly this increase merely reflects a growth in the abundance of natural resources. More likely, it is a result of an improved method of hunting in the form of the buffalo drive. Although this method may have been devised at a time much earlier than the beginning of the Late Lithic (Wesley R. Hurt, pers. comm.), it is only then that it seems to have gained wide acceptance among the native peoples. Even then, it does not seem to have been mastered; the first attempts at driving buffalo were faltering. But by the end of the Late Lithic, the buffalo drive had become highly perfected. Probably never in the prehistory of the northern Plains were so many individuals given so abundant a life as in the days just before the white conquest of the new world.

In contrast to the Central and Southern Plains, where various cultural manifestations appear and disappear with some regularity, late occupations of the northern Plains seem continuous and constantly increasing in size and intensity. The role of climate in limiting the success of occupation in the Central Plains has often been emphasized (Wedel 1959). Droughts may not have affected the Northern Plains so severely as they are thought to have affected regions further south. Then again, the use of buffalo drives may have afforded a secure base of subsistence in the northerly regions, which, for one reason or another, did not obtain in the Central and Southern Plains.

Most work so far undertaken in Alberta has been concentrated on archaeological remains of the Late Lithic. All the sites described below belong wholly or in part to this period. How far into the remote past they may extend is at present unknown. Quite possibly, some of the practices of Indians of Late Lithic times began in the Middle, or even the Early Lithic periods; this problem remains to be explored.

The Ross Site. Because erosional forces are more effective on the Plains than in other parts of the province, more buried sites are exposed in that region. They are usually uncovered along the banks of creeks and rivers, after the swelling floods of early summer have lashed the unprotected cutbanks. Sites characteristically appear as bands of stained soil, rarely more than a few inches thick, containing charcoal, fire-broken rock, bone and flint chips. The artifact yield is likely to be poor, probably averaging no more than six specimens in each stratum of 100 square feet.

Dark-stained layers, indicative of occupation, run along a cutbank of the Oldman River near its confluence with the Little Bow, northeast of Lethbridge. From their position in the present floodplain terrace, they are clearly re-

cent, but all cultural remains from the buried zones at the Ross site (DlPd-3) are prehistoric, though near the brim of history. Although the site is stratified into at least three layers, there is no significant difference in age, features, or artifacts between any of the layers except for very minor distinctions in pottery.

The pottery is typical of the Ethridge ware that has been recovered from various surface sites in Alberta and Montana and from a buried site in Montana (24TL26), which is similar to the Ross site in that cultural remains were enclosed in the most recent terrace of the Marias River (Cooper 1955). It has been suggested that both sites were probably occupied by the Blackfoot Indians (Forbis 1960).

The prime difficulty in assigning late prehistoric sites to any given tribal groups in the northwestern Plains stems from the rapid displacement of artifacts made in prehistoric times by materials of European culture. Early explorers of Alberta did not arrive soon enough to observe much important aboriginal material culture. This difficulty becomes particularly acute in the case of artifacts in which archaeologists tend to place great emphasis. Metal kettles, because of their durability, became items of trade before the white man reached the area; descriptions of clay vessels of the northern Plains, as a result, are either vague or dubious (Griffin, *in* Wormington and Forbis 1965) and in any case are of little value at the present time. Metal arrowheads, too, quickly superseded those of stone; eventually bows and arrows, in turn, were replaced by musket balls and rifles.

The types of projectile points from the Ross site seem to indicate clearly its late prehistoric position (Forbis 1962: 105). But until sites are found that fall in the transitional, protohistoric period to link the artifacts of the Ross site with historically identified tribes, no direct connection can be demonstrated between the site and the Blackfoot or any other tribe. Other artifacts at the Ross site are not sufficiently diagnostic of the Blackfoot (as opposed to other tribes in the region) to demand such a conclusion. In addition to the usual array of chipped stone implements, the artifact inventory includes such unusual items as hair brushes and buffalo stones (ammonite septa). As Ewers (pers. comm.) has pointed out, these items are not distinctive of any given tribal entity.

Analysis of the Ross site points up one fact: the direct historical approach is not likely to prove particularly fruitful in Alberta. The best hope for identifying tribe with site rests in inference (Forbis 1963). When many lines of evidence, no matter how indirect, converge on one conclusion, it is likely to be the correct one. This approach, based as it is on judgement and on the weighing of evidence, will never yield as solid results as the direct historical approach, but it is the best available.

Bison Drives. The principal method of killing buffalo in the grasslands of southern Alberta, before equestrian times, was the bison drive. A herd, large or small, was lured into position within a few miles of a cliff or steep slope. From there it was stampeded over the precipice, and the animals were killed outright or were so severely maimed as to be easily dispatched. This method of hunting was first widely employed, it seems, about 2,000 years ago. During historic times it was practised by the Blackfoot and a number of other tribes on the northern Plains.

Most bison drives took place in the late fall or early winter, when the flesh and fur were in prime condition and when men were obliged to lay in stores for the cruel winters. Among the Black-

foot, and probably among most other groups, the drive was preceded by ceremonies to induce success. Certain formalities were also observed upon completion of a successful drive.

The mechanics varied somewhat from place to place. Since the herd was generally driven with the wind, perhaps because it would take fright more readily when scenting the downwind hunters, precipices facing east and north were preferred in southern Alberta, where prevailing winds are southwesterly. Often on the prairie level there was a V-shaped drive-lane whose borders consisted of small piles of stone, brush, or dung. The purpose of these piles was to form a barrier, or "fence," which the buffalo by nature would prefer not to cross, even though it was not a formidable obstacle. The apex of the V-shaped drive-lane marked the position to which the buffalo were lured by young hunters. From there, the herd was stampeded into the ever narrowing drive-lane. At the herd passed the piles forming the "fence," men rose from their positions behind the piles and joined the chase. Ultimately, after a stampede of as much as two or three miles, the herd approached the cliff at great speed. Unable to veer aside, the animals leaped over it to their destruction. At some localities, where wood was available, a corral was constructed at the base of the precipice to contain the animals that were not incapacitated by the fall. These sites, which are usually at steep slopes rather than vertical cliffs, are known in the literature as buffalo pounds, pens, or corrals. At other localities, especially in the foothills where the relief of the land is rugged, the drop was usually sufficiently lethal to obviate the need for a corral. These places are known as falls, jumps, or drops.

Camp-sites are frequently, if not always, associated with buffalo kills. They tend to be located in valley bottoms, as much as a mile away from the precipice, presumably far enough from the stench of the decaying flesh and also far enough to not be seen by the oncoming herds. The location of camps in the valleys not only offered some protection from the brutal winter weather, but also made wood for fuel and water for domestic purposes readily available.

Probably no prehistoric method of hunting buffalo in the northern Plains was more effective than the bison drive. Literally tons of meat could be secured quickly. This meat could then be preserved as pemmican, which is a rich and highly concentrated food. Pemmican was therefore not only nutritious but, because it could be concentrated, was most suitable for nomads who travelled by foot and who needed to pack as much food into as little space as possible. Bison, too, provided a number of by-products, which could be turned into artifacts adapted to life in the Plains environment. Clothes and shelters were almost certainly made of buffalo hides in prehistoric as in historic times.

The available food supply no doubt largely determined the population limits of peoples of the northern Plains. What was "available" was a question not only of the abundance of the natural resources. Although it is true that the problem has not received the attention it deserves, there is little reason to believe that bison herds appreciably increased or decreased in size for the last 5,000 years, until historic times. The apparent increase in human occupation of the northern Plains during the past 2,000 years may then simply reflect the increased importance of bison drives in hunting.

Although buffalo kills are scattered throughout the northern Plains, they

seem to centre in the Montana-Alberta foothills. The Old Women's Jump (EcPl-1; plate 6), 50 miles south of Calgary, is a superb example (Forbis 1962). It is particularly important in that the culture-bearing deposit, over 20 feet deep, contained evidence of continuous occupation for a period of about 1,500 years, ending just before historic times. The majority of bison drives contain only one or two cultural layers; but at the Old Women's Buffalo Jump, because of the multiplicity of layers, it was possible to establish, by statistical methods, the histories of various projectile point types through time. In general, large corner-notched points (chiefly Besant) were succeeded by small corner-notched points and finally by varieties of small side-notched points.

The Cluny Earthlodge Village (EePf-1) was first described by Edmund Morris in 1911, and fifty years later by Forbis and Huscher (1961). The village is rimmed by a semicircular fortification trench ending on a cutbank of the Bow River, the main branch of the South Saskatchewan River (plate 7). It is about 70 miles east of Calgary. At the time the site was occupied, the river probably flowed along the edge of the cutbank, offering full protection with the fortification ditch, and the ford of Blackfoot Crossing, now a short distance upstream, was nearer to the site. The fortification ditch was some 825 feet long and enclosed a half circle

Plate 6

General view of the Old Women's Buffalo Jump (EcPl-1) from the north. Excavations extended to a depth of some 20 feet below the surface and revealed an unbroken cultural sequence of more than 1,500 years' duration.

about 400 feet in diameter. Originally the ditch was about seven feet from lip to lip, and about three and a half feet deep. Deposition, largely through flooding of the plain, has obscured the size and shape of the trench and other depressions.

Just inside the ditch, which may have served to divert water from sheet flooding, as well as to provide fortification, there are 11 small pits, presumably indicating where houses were once erected (fig. 3). They are arranged regularly within the trench except for two pits placed with some symmetry along the terrace edge. Excavated pits proved to be oval or circular in shape with a maximum length of nearly 14 feet. Possibly as a result of swirling floods, little cultural debris was recovered in the pits. Postholes, which would indicate the position of the walls and suggest the position of roof supports, were either sporadically placed in no clear pattern or were absent. No doorways were identified, although Morris indicated on his sketch map entrances and possible passageways at some unexcavated pits. Two cache pits had been dug on either side of one "house-pit," but they were absent elsewhere in the village proper. Cache pits outside the village were consistently filled with earth and debris of the historic period, probably dating from the 1880s when railway workers camped at the site while the Canadian Pacific Railway was under construction.

Plate 7

Aerial view of the Cluny Earthlodge Village (EePf-1) prior to excavation in 1960. The semicircular fortification trench ends on a former bank of the Bow River.

A palisade trench ran parallel to, and 15 or 20 feet inside, the fortification ditch and was about one and one-half feet wide and deep. Small posts had been set in this trench to form a curtain wall, which was supported on the inner side by a series of larger posts. Breaks in the palisade occurred at the house-pits as well as at breaks in the fortification ditch, where there were, presumably, entrances to the village. The house-pits were situated between the palisade and the ditch.

The centre of activity in the village appears to have been the flat area inside the palisade wall. Most of the artifacts were recovered there, and the numerous hearths may have been associated with temporary, perishable dwellings.

Like the architectural features, the pottery at the Cluny site suggests clear affiliation of the site with earthlodge villages in the Missouri River region of North and South Dakota. The vessels were globular jars, usually seven to eight inches in diameter and height. Lips were flattened, bevelled, or, rarely, rounded. Rims were straight and vertical, braced and insloping, or S-shaped. Most of the sherds were plain as a result of scraping or smoothing. Check-stamping was a prominent feature, and many smoothed sherds had probably been moulded with check-stamped paddles. Two ordinary forms of decoration at Cluny were essentially foreign to Alberta pottery. Dentate stamping was usually applied horizontally on the rim and neck and sometimes in a herringbone design on the rim. Wrapped-rod and wrapped-cord impressions were set horizontally around the neck, but diagonally on the rim and lip. Small thick discs, thought to be gaming pieces, were baked of clay.

Figure 3

Map of the Cluny Earthlodge Village (EePf-1). X-numbers indicate excavations; other numbers, features. Not shown are pits and mounds outside the fortification trench which produced artifacts of the historic period.

Other artifacts were made of stone, bone, shell, and perhaps copper or brass. Chipped stone tools are largely useless for diagnostic purposes, but the crudely manufactured projectile points consist principally of very recent types as they have been outlined at the Old Women's Buffalo Jump (Forbis 1962). Ground stone tools include shaftsmoothers, large grooved abrading stones, grinding slabs, grooved mauls, hammerstones, and quartzite spall scrapers. The inventory of bone tools is varied and includes beads, awls, punches, scapula knives, quill flatteners, and grainers. A few bison rib fragments were, for some reason, partially or completely perforated; others appear to be handles in which copper knife blades were inserted. The Cluny site yielded two such knife blades. Shell ornaments included cylindrical beads as well as flat irregular discs of *Unio*, some of which were perforated while others were drilled only part-way through. No human burials were uncovered. Faunal remains identified at present consist only of bison and of large canines, probably dogs but possibly small wolves.

Although the Cluny Earthlodge Village seems to occupy a protohistoric time-span, efforts to link it with any given historic tribe have so far failed. Morris (1911) recorded a Blackfoot tradition that the site was erected by the Crow Indians, and this attribution remains the best probability. L.H. Morgan (1871: 185) observed that

> the Crows changed their mode of life from the village to the camp, and from an agricultural basis of subsistence, to the products of the chase. They advanced northward by routes now unknown, until a part of them reached the south branch of the Siskatchewun [*sic*] River, more than fifteen hundred miles north of the present Minnitaree area.

Beyond a few such intimations, no specific links have been forged to connect Cluny with the Crow or any other tribes of the Missouri River area. The Hagen site in Montana, on the lower Yellowstone River, may well be Crow, but Hagen pottery is distinct in details from that of Cluny. Historic Hidatsa (Minnitaree) pottery seems even further removed. So far, it is only in general resemblances of village plan and pottery forms that Cluny can be said to be clearly affiliated with Plains Village sites of the Missouri River. That Cluny is some sort of Crow site, representing a transitional phase from settled farmers to nomadic bison hunters, is possible, even likely; but the case is by no means proved.

Western House-pits. Through the valley systems of the Rocky Mountains there are reported to be house-pits such as those constructed in historic times by the Shuswap Indians of the Interior Plateau. The best documented in Alberta was located on the present golf course at Banff National Park where house-pits were identified by James Teit and Harlan I. Smith, whose authority can hardly be questioned. Some sceptics regarded them as depressions formed by horses tethered at salt-licks. At any rate, they were apparently destroyed early in this century during construction of the golf course, after some testing failed to reveal signs of occupation. Reports of other house-pits in the Rocky Mountains of Alberta have not yet been confirmed.

It seems entirely probable that these pits are relatively recent. Borden (1956) noted that the Kinbasket band of Shuswap migrated into the East Kootenay region of British Columbia about 1840. A further extension to the east, however brief, seems the best explanation at present for the house-pits af Banff, which are only about 50 miles from house-pits located by Borden at Windermere Lake in British Columbia. Though similar in size and shape to the

pits at the Cluny Earthlodge Village, it seems very doubtful that they were constructed by closely related peoples.

Tipi Rings. The most characteristic sites of the northern plains are tipi rings — circles of stone designed to hold hide lodge-covers flush to the ground. The rings are generally between 12 to 20 feet in diameter, but they range widely in size. Some have central fireplaces outlined in stone (plate 8). No doubt a few tipi rings served some unknown function, especially when they vary widely from the usual size and conformation, but Kehoe (1960) has argued effectively that most of them served simple domiciliary purposes. The function of small rock cairns frequently in association with tipi rings is in doubt.

The very number of tipi rings suggests a common and probably domestic function. In 1958 the Glenbow Foundation undertook an intensive investigation of the Waterton River, along a stretch threatened by inundation as a result of dam construction. In a basin of 2,700 acres, 59 tipi rings were noted, or one ring to every 46 acres. Reckoning the area of southern Alberta, where tipi rings are known to occur, as 28,800,000 acres (45,000 square miles), the projected number of rings in the area is over 626,000. Even this estimate is conservative. The Waterton River is not particularly rich in tipi rings; farther east, on the true plains, they are far

Plate 8

Tipi ring, partially excavated, on a former gravel bar of the Waterton River. Note the central fireplace.

more numerous. Then too, much of the Waterton reservoir has been cultivated, and some rings were undoubtedly disturbed beyond recognition. Furthermore many rings were certainly buried thus escaping detection.

These considerations suggest that the estimate of 626,000 rings is far too low and that a more realistic estimate would place the number for prehistoric southern Alberta alone at well over one million. This number, in turn, should be multiplied several times for the northern Plains as a whole. If only because of their sheer numbers, it is difficult to believe, as Mulloy did (1954: 55), that these circle sites are not camps but served an unknown purpose, perhaps ceremonialism. Malouf (1961: 383) has pointed out that this position would require accepting "ceremonialism far beyond the scope of anything known among the historic tribes of the area."

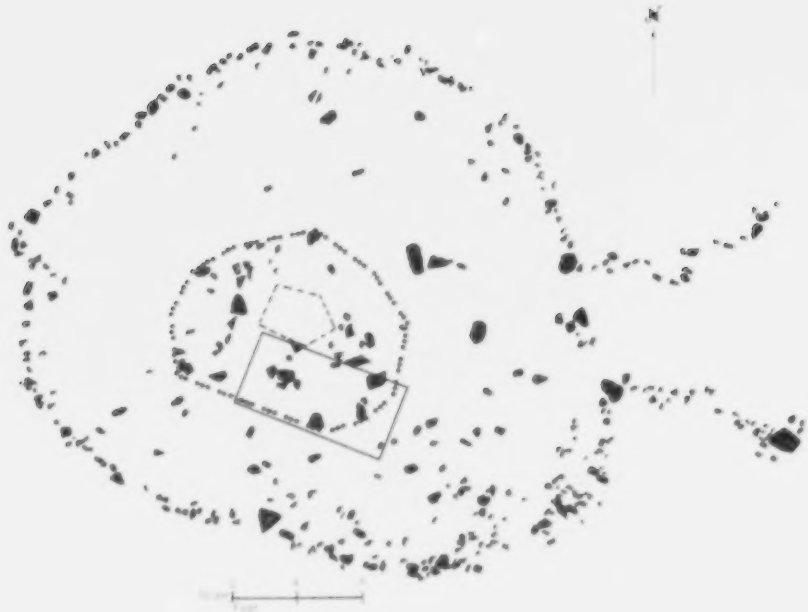
Stone-circle sites may contain from one to several hundred rings. Sometimes they extend for miles without any clear break. In the more southerly parts of the province, they generally occupy wind-blown positions on esker ridges or hug the edge of the uplands overlooking ancient or modern stream courses. Their location seems to bear little relation to good defensive positions or to present sources of water, but they are often excellent observation posts for watching the movement of game. To the north, nearer the parkland belt, sites tend to occupy low swales and valley bottoms. In this region too, as well as towards the mountains, the sites are usually limited in extent, generally comprising only a few small rings.

Almost without exception, the rings lie on relatively level land. Also, they occur in places where weathered and rounded field-stones are readily available; rocks were seldom hauled more than a few hundred yards to tipi ring sites.

In the larger concentrations in the south, there is no apparent intentional arrangement of the rings into a pattern except with respect to topography. Where the land is undulating, most rings can predictably be expected to lie on the higher ground, where drainage is good. To be sure, this rule is not inviolable and may be misleading inasmuch as fluvial deposition is likely to obliterate traces of rings in depressions or drainage channels. Even where wind is the only effective agent of deposition, many rings are buried almost beyond the point of recognition. But if the circles mark the site of former lodges, then it is reasonable to expect that they would lie on locations not readily flooded by sudden rainstorms.

Even when excavated, tipi ring sites are known to be notoriously poor in features and artifacts, particularly diagnostic artifacts. On the basis of projectile point typology, some sites almost certainly extend well into prehistory, perhaps to the beginning of the Christian era (Mulloy 1958: 211). But because they so often occupy surface locations, it is hardly reasonable to doubt that their use has extended into modern times, and, indeed, Kehoe (1960: 424-37) has recorded several instances of the use of tipi rings within historic times.

Medicine Wheels. Typically, medicine wheels are circles of stones from which several spokes of stones radiate (figs. 4 and 5). The stone circles are generally larger than tipi rings but seldom exceed 30 feet in diameter. Near the centre, there may be a small circle, possibly representing a fireplace. The length of the spokes is usually approximately the same as the diameter of the stone circle. Medicine wheels of historic times characteristically have four spokes; older prehistoric examples often have five, sometimes more.



Legend

Area of cairn

Disturbed area

Excavation area

Barry Medicine Wheel

NE ¼ Sec. 24 Twp 25 R3 W4th

Drawn by Y. Burns

Dwg. no. A-11-63

Courtesy Glenbow Foundation

Figure 4

Medicine wheel near Calgary with two spokes forming a "doorway." The central cairn yielded no artifacts on excavation.

There appears to be no consistent pattern to their location. Some are on high hills, some on "breaks" or spurs of land overlooking river valleys, and some, especially those of historic times, on bottom lands. Where medicine wheels are associated with large cairns, however, they invariably are placed on high hills, which provide excellent vistas of the surroundings. Medicine wheels at these locations are greatly magnified, and two circles may replace one.

Dempsey (1956) has recorded the construction of medicine wheels by the Blood and Peigan within the last three decades. They were intended to mark the residence or, rarely, the grave of a noted war chief, the circle outlining the edge of the tipi and the lines, erected after death, signifying the status of the chief. That the number "four" was sacred among the Blackfoot apparently has little or no bearing on the number of spokes. Kehoe (1954) has recorded

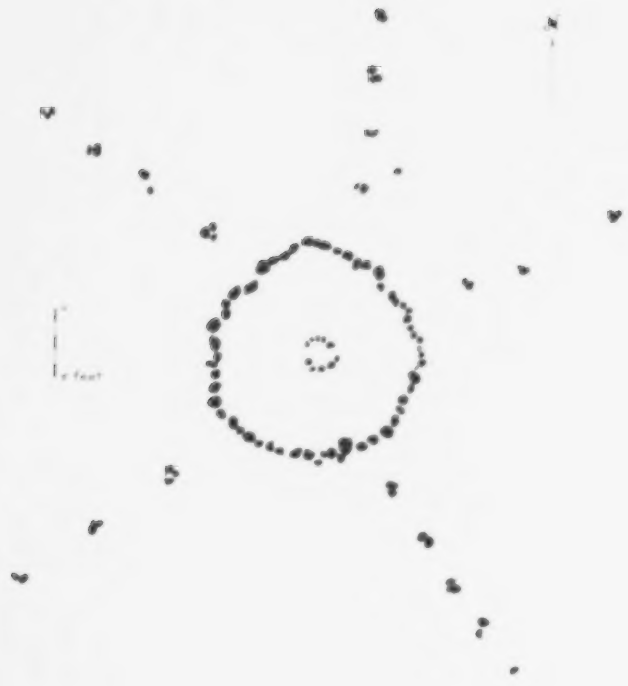


Figure 5

Medicine wheel near Rumsey (1961). It is typical in size and formation of small prehistoric medicine wheels in Alberta and neighbouring regions.

some medicine wheels in Alberta, Montana, and in Wyoming. In the United States the medicine wheels seem more complicated in form but fewer in number. One large typical medicine wheel (DfOv-2) near the Grassy Lake Cairn has been sketchily illustrated (Forbis 1960).

Cairns. Among the most impressive sites in Alberta are huge rock cairns, which invariably occupied high prominent locations in the prairie. At least seven such cairns once stood in the drainage of the South Saskatchewan River. That they served as burial sites, at least at Grassy Lake (DfOv-1) and Rumsey (EkPf-1), seems unquestionable because of the human physical remains that are reported to have been found there. Most of the sites, however, have been destroyed by relic collectors, and it seems doubtful now that their full significance will ever be understood.

The cairns were 25 to 30 feet in diameter and stood about the height of a man. They probably consisted of about one hundred tons of fieldstones that ranged in size from large boulders three feet in diameter to small pebbles that could have been transported by children; most are about the size of a man's head. The interstices between the rocks are usually filled with soil; some was certainly windblown material, but some was possibly put in place by the cairn-builders. At Rumsey, where a Glenbow Foundation crew attempted to salvage what remained of a vandalized cairn, there was the barest suggestion of an ochre-stained band of earth well above the original ground surface. The earth between may have been deposited either by man or nature before the ochre was applied.

With the exception of Grassy Lake (Forbis 1960), large cairns are encircled by one or sometimes two rings of stone (medicine wheels?) that are usually more than twice the diameter of the cairn itself. Spokes may radiate from the circle and sometimes form internal patterns within the ring. Mosaics of human figures and, rarely, other figures are located near the rings. Tipi circles are always in the immediate vicinity, perhaps only coincidentally because of the availability of rock.

Glenbow Foundation field parties excavated extensively at the British Block Cairn (EdOp-1) north of Medicine Hat (plate 9). This site had not been badly disturbed, as it is now on restricted land owned by the Defence Research Board. About the turn of the century, cowboys spelled out their initials and the brands of their outfits using stones from the stone ring and effigy figure near the site.

During the excavation, the crew stripped half the cairn down layer by layer. Most of the soil appeared to be windblown and was monotonously uniform in physical properties. However there was a layer, possibly an ancient humus zone, which rose about two feet in the centre of the mound and gradually sloped toward the edges; it may have described the surface of a smaller, more ancient mound, on which the high cairn was later erected. No pit was found beneath the pile of rocks. There are numerous low mounds near the cairn, which resemble it in circular shape and diameter but are only one or two feet high.

That there is no substantial difference in age through the British Block cairn is suggested by the fact that pottery, apparently of uniform style, was found throughout. Oddly enough, the projectile points consisted of extremely varied types, some being fairly ancient Oxbow points, some recent small side-notched points as well as a varied mixture of types attributed to all intermediate periods. Since it is the

most recent artifacts that must be relied upon in dating a site, the British Block Cairn can confidently be placed within the Late Lithic period because of the pottery and the late projectile point types. While some of the other artifacts are distinctive, they are not useful in determining chronological status, and the artifact assemblage as a whole, representing diverse types from diverse time periods, is of little value in establishing relationships. It is characteristic of all large cairns, so far as is known, that they contain a rich selection of artifacts from many time periods. Perhaps the artifacts represent offerings. The smaller mounds near the British Block Cairn yielded the same heterogeneity of forms.

To date, there is very little comparative literature describing constructions resembling the large cairns of Alberta. It seems quite possible that they bear some unestablished relationship to the burial mounds of the Middle West. But such a suggested relationship is weakened by the fact that, though the bones of various animals were preserved at the British Block Cairn, no human physical remains were recovered. Mention is made, in the Crow country of the Yellowstone River, Montana, of the offering of stones to piles of rock (Bradley 1961), but whether or not the Alberta cairns were regarded in a similar light is unknown.

Smaller cairns, some of them inconspicuous, are scattered widely over the

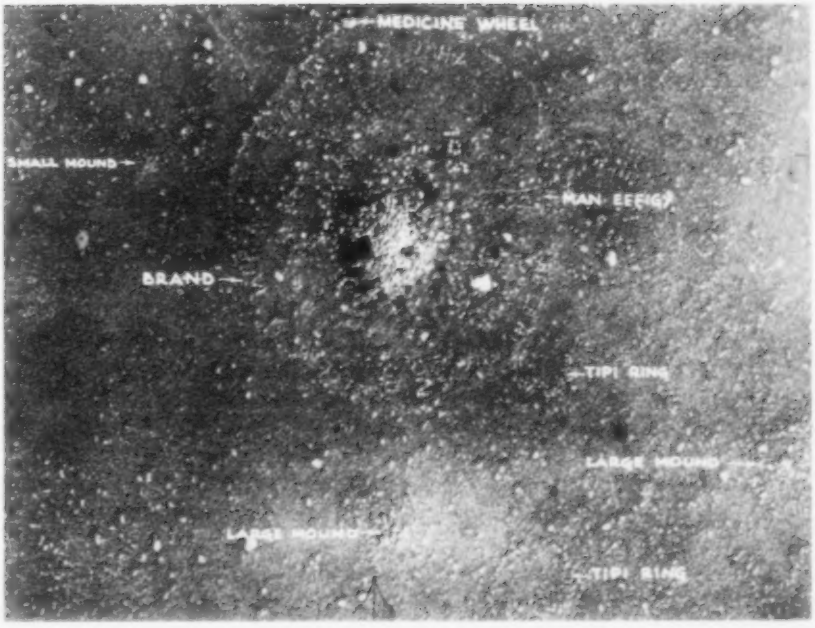


Plate 9

Aerial view of the British Block Cairn (EdOp-1) showing associated features. The medicine wheel is approximately 80 feet in diameter. (*Courtesy*: Royal Canadian Air Force.)

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Fig. 9

Aerial view of the British Block Cairn (EdNb-1) showing associated features. The diameter of the cairn is approximately 30 feet. (Courtesy Royal Canadian Air Force)

prairies, sometimes in groups on hillocks. They are frequently found along with tipi rings. What purpose they served is not known. Many approximate the size of a man's body, and for that reason they are locally known as burials. While they have not yet been explored properly, there is little to indicate that men were buried under the pile of rock. It is clear, however, that while rock piles might protect corpses from predators, they would not provide any enduring protection from micro-organisms; bone and flesh alike could soon disappear, so that physico-chemical methods may be needed to detect them now.

The smaller cairns vary widely in size and dimensions. Some are carefully laid out in a circular pattern and rise a foot or two above the ground level. Spokes may radiate from these centres, but only infrequently. Others are irregular in shape (perhaps they actually formed part of a mosaic whose shape is now obscure) and may lie flush with the surface of the ground. So far as is presently known, no pits were excavated beneath the surface of the ground. In contrast with the richness of the large cairns, artifacts of any sort are rare or absent in smaller cairns.

Boulder mosaics, or effigies, are found sporadically throughout southern Alberta, principally on high prominences in the prairies. They are composed of fieldstones set in some arrangement to represent human figures or animals. Human figures are associated with large stone cairns at Rumsey (EkPf-1), the British Block (EdOp-1) (fig. 6) and Grassy Lake (DfOv-6) (Forbis 1960). Other mosaics are usually located near tipi rings, possibly only because similar locations were preferred for both types of sites. Most mosaics have suffered disarrangement through human and natural activities. The intent of the representations is therefore often difficult to discern. At the Rumsey Cairn, the figure of a human being is still relatively intact, but reported figures of a dog, horse, and buffalo are now scattered beyond recognition, if indeed they ever existed. No doubt many mosaics have been completely destroyed by the cultivation of the land.

A common design is that of a man. The head and body are oval rings whose interior may be paved with stone. The arms, legs, and penis extend from the body as single rows of stone. Occasionally feet are represented. Typically the figures are about 25 feet in length; one was reported near Edmonton that was more than 100 feet long (files of the National Museum of Man, Ottawa).

The figures are sometimes associated with long rows of stone, and native informants may attach significance to the entire formation. The Kehoes (1959) reported a site near Cluny, on the Blackfoot Reserve, where two lines of stone indicate the paths taken by two Indians running towards each other; one, a young medicine man, was killed and the mosaic figure stands as his commemoration. At Wild Turnip Hill, on the Blood Reserve, there is a similar marker (DkPf-2). It records the killing of a Kutenai Indian by three Bloods led by Many Spotted Horses. Stone lines, now destroyed by cultivation, indicated the courses the Indians took. The headless human figure represents the corpse of the Kutenai, and three rock piles mark the places where the Bloods seated themselves. The incident took place a few years after the Mounted Police arrived in Alberta (1874), and native informants said that it caused a renewal of the feud between the Blood and Kutenai Indians, who had negotiated a peace settlement only a short time before.

Some figures, according to native testimony, represent the pranks of Napi, or Old Man, the Blackfoot trickster of mythology. In no sense were they constructed in the spirit of atonement for murder. The incidents surrounding them appear to be regarded humorously, and Napi is usually the butt of a joke.

The Kehoes (1959) discussed various aspects of mosaic figures in the northern Plains and pointed out the possibility that they might ultimately be related to

Figure 6

Boulder mosaic figure of a man located at the British Block Cairn (EdOp-1).

effigy mounds of Wisconsin. At any rate, the Dakota, Crow, Mandan, and possibly the Hidatsa attached significance to similar figures. It is evident that the boulder mosaic complex was widely distributed on the northern Plains. How far they extended into prehistory has not yet been ascertained.

Buffalo drive-lanes. In Alberta, piles of stones were occasionally set in lines laid out in the shape of a funnel. Grazing buffalo were lured into the wide opening and then stampeded down the lane between the lines towards the narrow opening that was situated just above a cliff or steep precipice. The "wings" forming the edges of the drive lane were composed of low piles of stones at short intervals. Extending as much as five miles, they served to channel the herds in the desired direction. An additional stimulus was provided by men who lay concealed behind the rock piles until the buffalo passed by, and who would then rise and follow the herd with all possible speed to keep it constantly on the run towards the precipice.

Rows of rock piles that served to delimit buffalo drive-lanes are exceedingly uncommon in Alberta compared to adjacent parts of Montana, where many buffalo kills are associated with them (Lewis n.d.). A possible explanation for the difference is that the "wings" were more regularly constructed of perishable materials in Alberta. Piles of brush and of buffalo dung are known from historical accounts to have formed the drive-lanes (Fidler n.d., entry for Dec. 5, 1792).

Pictographs. Nearly all known pictograph sites in Alberta have been recorded during the past few years for the Glenbow Foundation by Selwyn Dewdney. He regards the term "pictograph" as generic and distinguishes two varieties: "petrographs" or rock paintings, and "petroglyphs," the fashioning of a pattern on rock by incising or pecking (Dewdney 1960). While these terms vary in meaning from those in common use, they have the merit of finer etymological precision.

The outstanding sites in Alberta are in and near the Writing-On-Stone Provincial Park (DaOv-2). The park is misnamed because the representations are not true writing but rather are "doodlings." Most of the figures are petroglyphs incised into the soft sandstone formations along the Milk River, in the shadow of the Sweetgrass Hills. They tend to be concentrated on one cliff face, but others are scattered on suitable rock faces throughout the immediate vicinity. The figures are generally simple forms composed of lines and circles that could have been scratched into the rock with a flake of flint (plate 10). A few figures were incised and painted as well, while a few are strictly petrographs. The paint is badly faded.

One panel, the so-called "Battle Scene," appears to depict a tent camp under attack. Various human figures presumably represent men and women of opposing sides, dead and alive. That the scene is relatively recent is clearly indicated by the drawings of guns and horses, some with travois. Although these figures demonstrate an age verging on the historic, other pictographs at Writing-On-Stone are not associated with horses or guns, and their age is questionable, even though they are similar in style (Smith 1923). These earlier figures include representations of lances, bows and arrows, various animals (some perhaps mythical), and men with "shields" and other unidentified objects, possibly including scalps.

The Blackfoot Indians, when visited by James Doty in 1855, had no knowledge of the creators of the pictographs at Writing-On-Stone or, at least, would

not admit of such knowledge. Probably this information is lost forever, but placing them in the Late Lithic pediod can hardly be too much in error.

The figures at Writing-On-Stone seem most closely related to the pictographs in Montana; though farther south the figures begin to take on a different character (Stuart W. Conner, pers. comm.). They seem stylistically distinct from British Columbia, where pictographs, especially painted ones, are much more common than in Alberta. And representations from the Canadian Shield bear little specific relation to Writing-On-Stone (Dewdney n.d.).

Besides Writing-On-Stone, pictographs of Alberta tend to be found along the foothills of the Rocky Mountains south of Calgary and are particularly prevalent in the region of Nanton. They occur on rock outcrops and on large glacial erratics that form a boulder train along the eastern slopes of the foothills (Stalker 1956). Isolated examples occur in the mountains, and there is a report of one north of Peace River.

It seems probable, as Leechman, Hess, and Fowler (1956: 39) have suggested, that pictographs formed part of a complex associated with acquiring a Guardian Spirit. A young man, in search of a spirit helper, took himself to a lonely spot where he fasted and prayed until he saw a vision of an animal, plant, or bird that adopted him and gave him a song and a particular supernatural power. This spirit remained with him and protected him during his lifetime. Guardian Spirits monopolized the mythology and theology of Plains tribes

Plate 10

Pictographs in Verdigris Coulee near Writing-on-Stone Provincial Park. Several animals, probably including horses, and human forms are represented, as well as guns, bows and arrows, and scalps (?).

by virtue of their importance; presumably they are depicted in many pictographs.

Ribstones are boulder petroglyphs, which Dewdney in some cases has called "glyphstones," a term that may be etymologically sound. "Ribstone" however is time-honoured among the Cree and should be retained. It was adapted as early as 1859 by Captain Palliser to designate a creek flowing into the Battle River.

Most Alberta ribstones have been found within a 75-mile radius of Sullivan Lake; many have been removed from their original locations. Of approximately 10 specimens known to have originated in Alberta, few are intended to represent obvious figures (plate 11). One from Scapa, in the vicinity of Sullivan Lake, has a number of vertical grooves, presumably ribs, running down each side from a central groove that may represent a snake (ElPa-1). Grooves are typical of ribstones, but occasionally a face may be represented, as in the case of the Trochu ribstone (EkPg-1). On this stone, horns originate at the sides of the head; the animal is presumed to be a bison. The eyes, mouth, and possibly the nose are figured. The same is true of the Berry Creek Ribstone (ElhOu-1) where another face is possibly superimposed. A sinuous snake-like tail, composed of fieldstones, was added to this specimen by homesteaders in 1908; apparently the fieldstone had originally been laid in a circular pattern around the ribstone (Johnston n.d.). The Berry Creek ribstone was removed from Ribstone Hill, near Sunnynook, in 1912 and is now housed, with another specimen from Alberta, in the National Museum of Man.

Ribstones share a number of common characteristics. All are made of quartzite, apparently transported by glacial action from the Canadian Shield. They are uniformly found on high hills with a commanding view of the surrounding landscape. The design elements are formed not only by grooves but also by circular pits that are generally about two inches in diameter. Most ribstones were probably felt to have some magical relation to bison and were related to success in hunting it, much like the ammonite septa buffalo stones in use among northern Plains Indian tribes. Where a distinctive figure is shown, it is always surrounded by a number of grooves and pockmarks, which bear no clear relation to the figure. Typically, ribstones occur only as single specimens. Larger examples are some three to five feet long and may weigh several hundred pounds. Smaller ribstones, so far as is known, occur only in association with large ones.

Interpretations of their significance almost invariably attribute to ribstones some kind of ceremonial or religious function, a "groping towards God" (MacGregor 1959). L'Heureux (1959), in his 1884 address to the British Association for the Advancement of Science, visualized them as ancient sacrificial stones and saw their connection with the high cultures of Mexico. This hypothesis has recently been revived. Shumate (1963), describing a ribstone from Big Sandy, Montana, quotes Willard E. Fraser, who spent several seasons in archaeological fieldwork in the southwestern United States, as saying that one design is "clearly a variation of the Plumed Serpent of the Southwest and Mexico." No design on the ribstones of Alberta is specific enough to deserve similar comparison.

Ribstones not only occur in Montana and Alberta but seem to extend at least as far as Saskatchewan and into the Dakotas. They may bear some relationship to the "medicine rocks" of the

Mandan and Hidatsa, who regarded them as oracles, which informed the Indians of everything that was to happen during the year. These rocks, which also occupied positions on high hills, were marked by figures depicting footprints of men and other animals as well as travois (Will and Spinden 1906: 138). Curtis (1909, opposite p. 184) illustrates a stone, apparently a ribstone, which, according to Hidatsa belief, the Sun threw at his daughter-in-law as she was attempting to lower herself on a cord from a hole in the sky in order to return to earth. The tale is one version of the Morning Star legend, which appears to be widespread in the northern Plains; among the Blackfoot, at any rate, the story is a basic theme of the Sun Dance. There is nothing to indicate, however, that the Blackfoot or other native people of Alberta held ribstones in awe. Ewers (1952), however, has recorded a Blackfoot legend associated with the "Medicine Rock of the Marias" in Montana; this stone, though sharing most features in common with ribstones, does not appear to have been modified by human hand. The age of ribstones is unknown. Recent trade goods found near the sites may be no more than offerings presented to the stones within historic times.

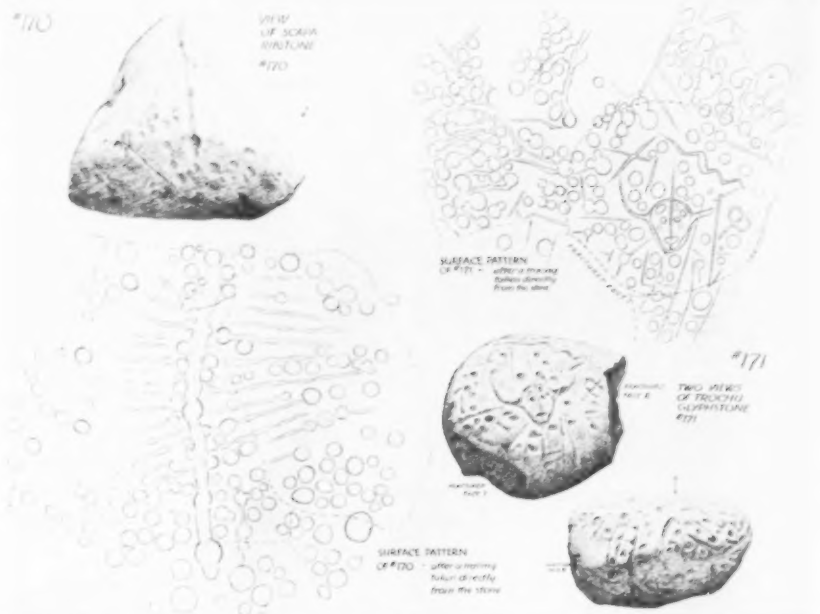

Plate 11

Drawings of two ribstones from Alberta (ElPa-1; EkPg-1). The pockmarks and grooves forming patterns are typical. Both specimens are some three to four feet long.

Pottery. The two most important papers on Alberta pottery are those by Alice B. Kehoe (1959) and James B. Griffin (included as appendix in Wormington and Forbis (1965)). Kehoe attributed the ceramics of southern Alberta to the Blackfoot Indians because of their coincident distribution in historic times with prehistoric pottery, as is known from surface collections. The main ware is termed "Ethridge," after a site in northern Montana described by Wedel (1951). Cooper (1955) described material from a site on the Marias River and though he did not recognize a connection between the pottery from this site (24TL26) and Ethridge ware, most students of the northern Plains lump them in the same group. The only other important locality that yielded quantities of Ethridge ware is the Ross Site (*see* p. 19).

Griffin's paper was largely based on studies of surface collections, especially the collection assembled by Russell A. Johnston, from east-central Alberta. This pottery, because of a predominance of cord-marking, grit temper, and simple rim and jar forms, indicated to Griffin connections with Woodland ceramic traditions to the east and south. Features of incising, punctation, cord-wrapped stick impressions, and, rarely, net impressions reinforced his position. However, no authority on Alberta pottery has yet found specific connections between Alberta pottery and other Woodland traditions, beyond the suggestion that it was derived from the Minnesota-Manitoba regions. Griffin suggested that techniques of pottery manufacture may have disintegrated rapidly in response to new environmental adaptations and a more nomadic life. As a working hypothesis, he suggested that Alberta pottery was brought in by a westward movement of the Blackfoot, Gros Ventre, and Arapaho.

Griffin noted a few sherds in surface collections, which had grooved paddle impressions, a form of surface treatment that was probably derived from the Missouri River Valley of North Dakota and Montana. A far larger sample of wares derived from the same area was recently found at the Cluny Earthlodge Village (*see* pp. 22-25). The pottery as well as the character of the fortification ditch, surrounding a number of house-pits, strongly indicated an affiliation of Cluny with the Plains Village peoples of the Middle Missouri River. Various attributes of the ceramics, including S-shaped rims, braced rims, and check-stamping, are rare or absent in other pottery traditions of Alberta but are sufficiently common along the Missouri to suggest some relationship. The exact nature of this relationship, however, has not yet been established. Most authorities on the Plains Village pattern who examine the Cluny pottery do not hesitate to note a general resemblance with late types in the Missouri Valley, but they cannot see precise parallels.

With the rapid accumulation of sizable pottery collections during the past few years, it is probably time now for a new evaluation of the situation, particularly with an intention of establishing regional variations that may be meaningful in ethnohistory. This supposes that the bulk of Alberta pottery is late in time, as indeed seems to be the case. There is no material, as Griffin has stated, which would represent the early introduction of an Asiatic ceramic tradition into the eastern United States.

Stone. The documents of archaeology in Alberta are largely concerned with stone tools, few of which have diagnostic value. Unquestionably the most important stone artifacts are projectile points, which occur in a wide variety of shapes and sizes. Many variations are an aid in determining temporal assignments

and will ultimately aid in distinguishing cultures of equivalent age. This class of artifacts far outweighs all others in usefulness; pottery, so frequently relied upon elsewhere, is not characteristic of most sites and seems in Alberta to be very uniform in all features.

The great bulk of chipped stone artifacts consists of simple flakes chipped to varying degrees on one or both faces. Choppers are ubiquitous but are confined largely to the Middle and Late Lithic Periods. Ground stone tools are not yet sufficiently common to require detailed attention.

Some stone items, by virtue of their artistry, merit special consideration. Although rare, bison effigies have been reported from widely separated places throughout the northern Plains (Woolworth 1959). As yet, little can be stated regarding their cultural affiliation or temporal position. The fact that most specimens, as far as is known, have come from the plough zone or from the surface of the ground suggests a late prehistoric age.

One specimen, housed in the Glenbow Foundation, is made of soapstone rather than of the usual hard igneous rock (plate 12). Perhaps because of the workability of the material this specimen has attained high artistic perfection. Anatomical features, though not in true proportion, are rendered in detail and include eyes, ears, nose, mouth, tongue, horns, legs, hump, and tail. Sexual features are not indicated. Maximum dimensions are as follows: length 252 mm, height (hump to foot)

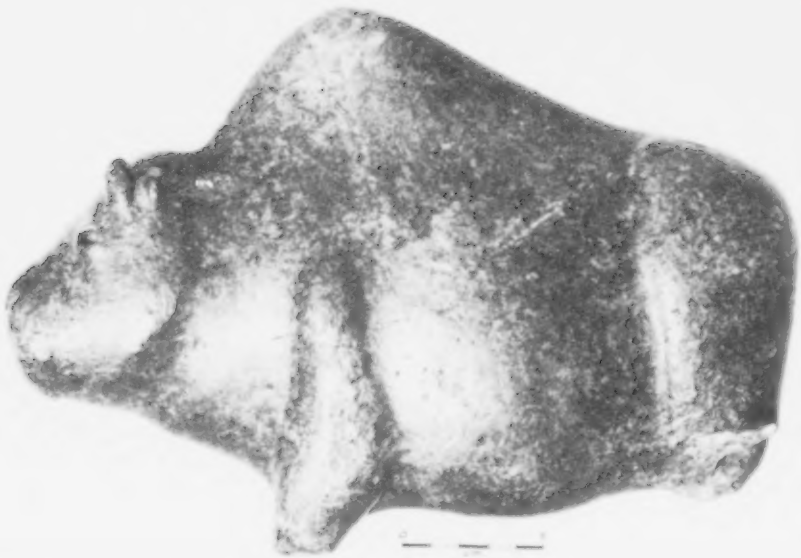

Plate 12

Soapstone sculpture of a buffalo from Ardmore, northeast of Edmonton. Of several specimens from the Northern Plains, this one has attained the highest artistic perfection.

176 mm, and width 56 mm. The effigy was found by S.I. Hamre while he was removing rocks from a field near Ardmore, about 130 airmiles northeast of Edmonton. This locality is about 240 miles northwest of Saskatoon, where H.K. Cronk (1956) reported finding an effigy of similar styling.

Small rod-like effigies that taper toward each end and presumably represent lizard forms, by virtue of reptilian heads at one or both ends, seem to be more common on the Plains than in the wooded areas. They are usually about six inches long and less than an inch in diameter and are made of hard igneous rock. Despite the hardness of the material, they are smoothed and frequently polished (fig. 7). All specimens come from surface locations, and their age is unknown.

The occasional pipe is reported from Alberta, generally in wooded country and not in the Plains (plate 13). Although the exact locations of these finds cannot be specified, they are noted from Peace River country (Rycroft), the Edmonton district (Bruderheim), and from the Camrose region. The pipes are generally about six inches long and two inches in maximum diameter, and they usually constrict towards either end. The bore is usually tapering and averages perhaps half an inch in diameter. The pipes are

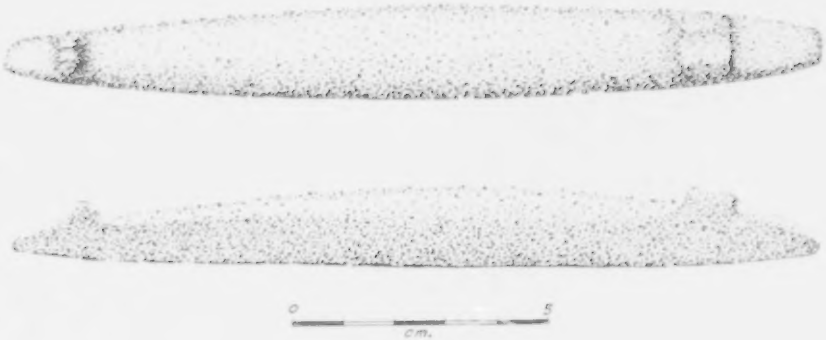

Figure 7

Effigy figure (snake or lizard?) of igneous stone from the Oldman River near Monarch. A surface find. (A. Dyck Collection.)

made of soapstone and usually polished to some degree. Incisions on the outer surface form stick figure designs. What they are intended to represent as well as their cultural affiliation and age remains unknown.

Plaques, similar to the ceremonial palette that Leechman (1954) reported from Saskatchewan, occur sporadically in Alberta. No information is available on the exact location of the find spots, but, like the pipes, they seem to originate in the area north of the Plains proper. Typically, they are round or oval, some seven or eight inches in diameter, and an inch or so thick. They are usually made of smoothed igneous stone. A design may be pecked into one face; the other is flat (plate 14). The fact that a ridge occasionally runs around the edge of the stone may indicate that it served as a dish or, as Leechman has suggested, a paint palette.

Other Materials. Aside from clay and stone, other materials from archaeological sites occur with very limited frequency. Quite a variety of bone tools has been recovered in Late Lithic sites, but bone tools are otherwise scarce. Conditions for preservation are generally poor, and such perishable materials as wood and leather do not last. One notable exception is a carved wooden face, which is reported to have been

Plate 13

Tubular pipe of soapstone and layout of figures incised on the surface. It was found near Rycroft in the Peace River District. (R. Cochrane Collection.)

found in a peat bog near Sturgeon Heights in the Peace River country (fig. 8). This grotesque carving depicts a human face with eyes, nose, nostrils, and mouth. Two or three of the teeth in the lower jaw are shown. The right ear is a large circular node with a hole in the centre. A groove runs along the back of the head, possibly for purposes of attachment. The face is about three inches in diameter, and the head two inches thick.

Until trade goods started to filter into Alberta, metal was seldom used.

Plate 14

Plaque of igneous stone reportedly from the Wainwright District. The raised ridge around the edge is typical of similar specimens; the figured face is rare. (T. Hobbs Collection.)

The discovery of a copper crescent, shaped and manufactured in the same manner as similar artifacts from the Old Cooper Culture, prompted a survey of Castor Creek (*see* pp. 15-17) in the vain hope that a copper-bearing site might be located. The crescent is a semilunar blade, equipped with prongs that were probably designed to take a handle (plate 15). It is 208 mm long, about 3 mm maximum thickness and tapers to the edge of the blade.

Figure 8

Carved wooden head reportedly from a peat bog near Sturgeon Heights in the Peace River District. (R. Rogers Collection; drawing by M.H. Forbis).

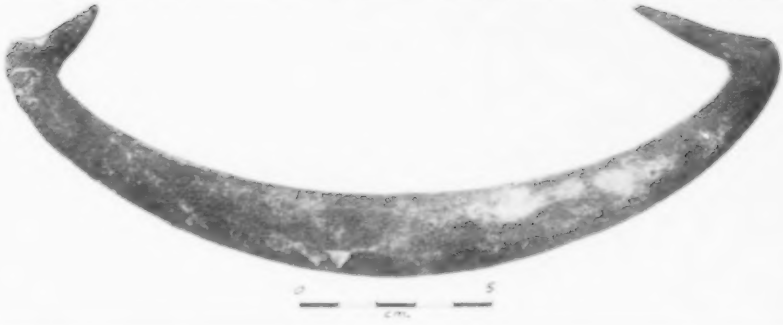

Plate 15

Copper crescent from the bed of Castor Creek. The artifact is a characteristic implement of the Old Copper Culture and at present is the only such specimen identified from Alberta. (A.E. Turner Collection.)

Archaeology in Alberta has developed rapidly during the past few years. It appears to be solidly founded, and there is every reason to believe that the amount of activity, both in training and research, will increase substantially in coming years. Many obvious gaps in knowledge will be closed by intensive and extensive exploration of selected sites belonging to various time periods and cultural traditions and by their excavation. When this objective is achieved, a more adequate synthesis of the position of Alberta in the broad scheme of things will be feasible.

Some strictly practical problems have already arisen that could become serious with time. As interest grows in archaeology, more individuals tend to take the enthusiastic but narrow view that the collecting of specimens is the sole aim of archaeology. When they pursue this aim, they sometimes wreak havoc on important archaeological sites and in effect destroy their scientific value. No antiquities act has been passed in Alberta to protect archaeological sites from vandalism. Even more important, no provision has been made by any governmental agency to protect sites doomed to destruction by the building of such projects as dams, highways, and pipelines by private or government interests.

Archaeologists tend to think of problems from the point of view of research. And no two archaeologists would single out the same problems for solution since each has his own outlook. To the writer, the following topics merit special consideration at the present time.

Peopling of the New World. Anthropologists have long accepted the idea that man migrated to the new world by way of Bering Strait, and it has become a corollary that he then followed a course southward along the eastern slopes of the Rocky Mountains. It is assumed that the Canadian Shield lay under a mass of ice, that the mountainous terrain of the west (except the Rocky Mountain Trench) was too tortuous for travel, and that the eastern slopes of the Rockies were ice-free, offering a corridor abundant with game that would appeal to men of an Upper Palaeolithic cast. Hence one of the main hopes of archaeologists working in Alberta has been to discover remains of early man in America (Bird 1939; Bliss 1939).

As long as the earliest evidence for man in the new world was confined to the terminal phases of the Wisconsin glaciation, these speculations contained much merit, at least as logical possibilites. If, however, the antiquity of man in North America can be extended to still earlier times, as seems likely in the case of such sites as Friesenhahn Cave, Texas, the speculations take on an even more tentative air. Although a fairly extensive amount of useful information on climatic conditions during the terminal phases of the Wisconsin glaciation has accumulated within recent years, still earlier phases are sketched only in broad outlines.

As a result, from a theoretical point of view, Alberta has declined in importance, in the problem of ancient man. The earliest migrants were not necessarily limited to working their way south from the Bering Strait through Alberta. Other routes may have been followed. If the problem is to be solved, the early cultures will have to be satisfactorily dated. Then their relationships to contemporary climatic conditions, flora and fauna must be established on a continental basis. With this information at hand, and with indications of the probable type of subsistence economy basic to the early cultures (they need not have been big-game hunters), some well-founded speculations concerning

the arrival of man in the new world may be formulated. It now seems clear that the older formulations are outdated. Newer ones, to achieve any great degree of validity, must ultimately be derived from palaeoclimatologists, geologists, glaciologists, palaeobotanists, palaeontologists and archaeologists working hand in hand with each other to solve common problems.

Broader relationships. To the east and south, the Plains of prehistoric Alberta form an integral part of the geographic area known as the "Northern Plains." The relationships of Alberta are of course closest with neighbouring Saskatchewan and Montana and appear to extend as far into the past as it is currently possible to trace them. Some specific variations may exist from place to place in the northern Plains, but any basic differences that may appear to divide the area are probably not real but rather result from an unequal and inadequate description of the archaeology of one place compared to another. In all likelihood the Northern Plains forms an area co-tradition.

To the west, on the other hand, the Plateau cultures seem clearly to represent a distinctive tradition quite apart from the Plains. As in historic times, the prehistoric occupants of the Plateau probably made occasional forays through the Rockies onto the Plains. Still farther north, where Alberta shares the Boreal Forest with British Columbia, influences from the coast and interior seem strongest. Distinctive artifacts from the west, including jadeite adze blades and nippled pestles, extend into adjoining portions of Alberta. All in all, the western border of Alberta has hardly been explored to date, but it seems likely, from what is known, that the line separating the Plains culture area from Plateau should be drawn between the foothills and the mountains, not along the continental divide.

The Boreal Forest of northern Alberta is quite certain to be culturally only a part of the larger Subarctic area. Nevertheless, it poses the principal problem in Alberta archaeology in that it has not been subjected to any appreciable study by professional archaeologists. As a result, it stands in sharp contrast to the Plains as well as to the more northerly regions, above the sixtieth parallel. MacNeish, in numerous contributions, has outlined cultural sequences of great time depth in the Yukon and Mackenzie territories. If cultural relationships between the Plains and Subarctic regions are ever to be determined with any precision, the nature of archaeological remains in intermediate regions, such as northern Alberta, will also require detailed examination. The magnitude of this task should not be underestimated. Sites in the region are small and scattered. In contrast with the Plains, they are not often exposed by erosional forces. And from a practical point of view, travel in the north is either by means of primitive craft, in which case it is difficult and painfully slow, or by means of aircraft, in which case it is expensive.

Tribal identifications. In spite of the fact that the program of the Glenbow Foundation has been directed primarily towards learning more of the Late Lithic Period, not a single site or scrap of prehistoric material culture can be positively ascribed to any historic tribal group. In some cases it seems possible, or even probable, that a certain site was occupied by a particular linguistic group (*see* Ross Site, pp. 19-22), but even then, final proof is lacking. The main difficulty in linking sites with peoples is in linking the last phases of the prehistoric with the earliest phases of the historic period. Ideally, those sites bridging the gap will yield distinc-

tive cultural materials of prehistoric times and artifacts of the historic period that are diagnostic of a given tribe. But sites satisfying these criteria are not likely to be common, even as logical possibilities, and they have not yet been found.

Yet the importance of the direct historical approach can hardly be overstressed. Tracing the prehistory of peoples through time has always been one of the prime objectives in archaeology. Those students in other parts of the world who are accustomed to speaking of specific peoples can barely conceive the turn that their thinking might take if suddenly they were left with no idea of group identities. Links between the historic and prehistoric add flesh, colour, and definition to the dead stones and bones that constitute cultural assemblages. They make it possible to follow the migrations, to chart the vicissitudes, and to trace the culture history of a tribe. It is urgent to assure that the direct historical approach ultimately succeeds in Alberta.

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